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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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23720	7590	06/24/2005	EXAMINER	
WILLIAMS, MORGAN & AMERSON, P.C. 10333 RICHMOND, SUITE 1100 HOUSTON, TX 77042			KADING, JOSHUA A	
			ART UNIT	PAPER NUMBER
			2661	

DATE MAILED: 06/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/663,774

Applicant(s)

BJORKLUND ET AL.

Examiner

Joshua Kading

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 April 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4-30 and 32-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 4-30 and 32-34 is/are rejected.
- 7) ☒ Claim(s) 9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 9 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 9 recites, verbatim, the last limitation of parent claim 7.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 4, 6-20, and 32-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,790,536, Mahany et al. (Mahany) in view of U.S. Patent 6,377,608 131, Zyren.

Regarding claim 4, Mahany discloses, "a multi-tier system for digital radio communication, comprising:

a first-tier base station comprising a first radio transceiver operating in accordance with a first communication protocol (*figure 1c, element 56*);

a wireless device comprising a second radio transceiver operating in accordance with a second communication protocol that is different from the first communication protocol (*figure 1, all P devices which operate with a different protocol than that of the base station 56*);

a combination unit that is wirelessly connected to the first-tier base station and connected to the wireless device (*figure 1, element 61*);

wherein the first communications protocol is employed for transmissions at a higher speed and has a longer range than the second communications protocol and wherein the first-tier base station communicates with the wireless device via the combination unit (*col. 49, lines 66-col. 50, lines 1-10 where the "premise LAN" consists of the first-tier base station operating at a first protocol and the "peripheral LAN" consists of all P devices operating at a second protocol*)."

However, Mahany lacks what Zyren discloses, "wherein the first-tier base station communicates to the combination unit one or more discrete number frequency channels that may be utilized by the combination unit to communicate with the wireless device (*figure 13 and col. 5, lines 43-55 and col. 6, lines 19-21 where the access point (i.e. base station) contains the beacon generator which informs the combination units which frequencies to use through the beacon signal*)."

It would have been obvious to one with ordinary skill in the art at the time of invention to include the determination of discrete frequency channels for the purpose of

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having the wireless devices communicate using frequency hopping. The motivation for using frequency hopping for communication is to avoid interference (*Zyren, col. 3, lines 6-11*).

Regarding claim 7, 9, 15, and 33, Mahany discloses, "a system for wireless communication, comprising:

a first-tier base station comprising a first radio transceiver operating in accordance with a first communication protocol (*figure 1 C, element 56*);

a second-tier base station comprising a second radio transceiver operating in accordance with a second communication protocol independent of the first communication protocol (*figure 1, all P devices which operate with a different protocol than that of the base station 56 and where element 61 effectively acts as a base station for the peripheral elements P*);

a first-tier remote unit wirelessly connected to the first-tier base station through the first radio transceiver (*figure 1 C, the first element P connected to element 61*);

a second-tier remote unit wirelessly connected to the second-tier base station through the second radio transceiver (*figure 1C, the second element P connected to element 61*);

wherein the first-tier remote unit connects to the first-tier base station via a first communications protocol using a wireless medium, wherein the first communications protocol utilizes frequency hopping to transmit a message over a discrete number of

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frequency channels within a frequency band (*col. 32, lines 43-46 and col. 49, lines 66-col. 50, lines 1-10*);

wherein the second-tier remote unit connects to the second-tier base station via a second communications protocol using a wireless medium, wherein the second communications protocol utilizes frequency hopping to transmit a message over a discrete number of frequency channels within a frequency band, wherein the second communications protocol operates at a lower power level than the first communications protocol (*col. 40, lines 51-56 and col. 49, lines 66-col. 50, lines 1-10 where it is fully possible for the second protocol operate as in a frequency hopping fashion*)."

However, Mahany lacks what Zyren discloses, "wherein the first-tier base station and the second-tier base station coordinate to determine the one or more discrete number of frequency channels that will not be used by the first communications protocol and direct the second-tier base station to use only the one or more discrete number of frequency channels that are not used by the first-tier base station (*figure 13 and col. 5, lines 43-55 and col. 6, lines 19-21 where the access point (i.e. base station) contains the beacon generator which informs the combination units which frequencies to use through the beacon signal*)."

It would have been obvious to one with ordinary skill in the art at the time of invention to include the determination of discrete frequency channels for the purpose of having the wireless devices communicate using frequency hopping. The motivation for using frequency hopping for communication is to avoid interference (*Zyren, col. 3, lines 6-11*).

Regarding claims 6 and 34, Mahany lacks what Zyren further discloses, "wherein the first-tier base station communicates to the combination unit a plurality of the one or more discrete number of frequency channels that may be employed by the combination unit (*figure 13 and col. 5, lines 43-55 and col. 6, lines 19-21 where the access point (i.e. base station) contains the beacon generator which informs the combination units which frequencies to use through the beacon signal*)." It would have been obvious to one with ordinary skill in the art at the time of invention to include the indicating the frequency channels with the system of claim 4 and the method of claim 33 for the same reasons and motivation as in claims 4 and 34.

Regarding claims 8, 14, and 16, Mahany lacks what Zyren further discloses, "the frequency band is the 2.4 GHz ISM band and wherein the first communications protocol is the IEEE 802.11 protocol (*col. 5, lines 1-5*)." It would have been obvious to one with ordinary skill in the art at the time of invention to include the frequency band for the same reasons and motivation as in claims 7 and 15.

Regarding claims 10, 17, and 18, Zyren lacks what Mahany further discloses, "the second communications protocol operates at a power level of about 1 mW (*col. 49, lines 66-col. 50, lines 1-10*) and wherein the first communications protocol operates at a power level of about 100 mW (*col. 49, lines 66-col. 50, lines 1-10*)." It would have been

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obvious to one with ordinary skill in the art at the time of invention to include the power level for the same reasons and motivation as in claims 7 and 15.

Regarding claim 11, Zyren lacks what Mahany further discloses, "wherein the coordinating is between an access point transmitting via the first communication protocol and a combination unit transmitting via the second communication protocol to a wireless device (*figure 1 C, element 56 and all P devices which operate with a different protocol than that of the base station 56 and where element 61 effectively acts as a base station for the peripheral elements P*).\" It would have been obvious to one with ordinary skill in the art at the time of invention to include the access point for the same reasons and motivation as in claim 7.

Regarding claims 12, 13, 19, and 20, Mahany lacks what Zyren further discloses, "wherein at least two of the one or more discrete number of frequency channels are not being used, and wherein the at least two frequency channels that are not be being used by the first communications protocol are the two frequency channels on either end of the frequency band (*figure 13 where the end of the spectrum is occupied by the discrete frequency channels of the second protocol*).\" It would have been obvious to one with ordinary skill in the art at the time of invention to include the using the end frequencies of the spectrum with the second communication protocol for the same reasons and motivation as in claims 7 and 15.

Regarding claim 32, Zyren lacks what Mahany further discloses, "wherein the first communications protocol and the second communications protocol each utilizes frequency hopping to transmit data (*col. 40, lines 51-56 where the premises LAN corresponds to the first communication protocol and the peripheral LAN corresponds to the second communication protocol*)."

It would have been obvious to one of ordinary skill in the art at the time of invention to include the frequency hopping in both protocols for the same reasons and motivation as in claim 4.

3. Claims 5, 22-24, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mahany et al. and Zyren as applied to claims 4 and 15 above, and further in view of U.S. Patent 6,526,335 81, Treyz et al. (Treyz).

Regarding claim 5, Mahany and Zyren lack what Treyz discloses, "the combination unit includes at least one of ports for communicating via infrared wireless transmission, facsimile transmission, and transmission using a modem (*figure 3, element 124 is for infrared (IR); col. 14, lines 3-13 where the combination unit (wireless unit) communicates with devices that offer the same function as a facsimile; col. 24, lines 56-60 where the combination unit again communicates with devices that offer communication to a network via a modem*)."

It would have been obvious to one with ordinary skill in the art at the time of invention to include the communication via IR, fax; and modem with the system of claim 4 for the purpose of providing the user with more

services (*Treyz, col. 1, lines 65-67*). The motivation being that offering more services to users increases the products marketability.

Regarding claim 22, Mahany and Zyren lack what Treyz discloses, "the second communications protocol is used to identify a vehicle using a database of vehicle information (*col. 32, lines 32-51*).\" It would have been obvious to one with ordinary skill in the art at the time of invention to include the vehicle identification with the system of claim 15 for the purpose of correctly associating a vehicle's owner with the correct vehicle. The motivation being that if the vehicle needs to be located in a large area, the vehicle's identification is a way to search and locate the missing vehicle.

Regarding claim 23, Mahany and Zyren lack what Treyz discloses, that is "the second communications protocol is used to identify the identity and location of a missing vehicle (*col. 32, lines 32-57*).\" It would have been obvious to one with ordinary skill in the art at the time of invention to include the vehicle identification and location with the system of claim 15 for the purpose of finding a vehicle. The motivation being that if the vehicle needs to be located in a large area, the vehicle's identification is a way to search and locate the missing vehicle.

Regarding claim 24, Mahany and Zyren lack what Treyz discloses, that is "the second communications protocol is used to obtain diagnostic information for a vehicle (*col. 3, lines 46-49 where the diagnostic information is wirelessly communicated to a*

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printer)." It would have been obvious to one with ordinary skill in the art at the time of invention to include the diagnostic information with the system of claim 15 for the purpose of maintaining a record of the condition of the vehicle. The motivation being that when problems arise, they will be detected and dealt with promptly.

Regarding claim 27, Mahany and Zyren lack what Treyz discloses, that is "the second communications protocol is used to transmit data about a fixed location to a vehicle (*col. 32, lines 32-57*)." It would have been obvious to one with ordinary skill in the art at the time of invention to include the fixed location with the system of claim 15 for the purpose of finding a vehicle. The motivation being that if the vehicle needs to be located in a large area, the vehicle's identification is a way to search and locate the missing vehicle.

4. Claims 21 and 25 are rejected under 35 U.S.C. 103(x) as being unpatentable over Mahany et al. and Zyren as applied to claim 15 above, and further in view of U.S. Patent 6,160,493, Smith.

Regarding claim 21, Mahany and Zyren lack what Smith discloses, that is "the second communications protocol is used to communicate among at least two moving vehicles (*col. 1, lines 44-57 where it the first and second vehicle are communicating about collision avoidance*)." It would have been obvious to include the communication between two moving vehicles with the system of claim 15 for the purpose of avoiding a

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traffic accident involving the moving vehicles. The motivation is to avoid vehicle or personal injury.

Regarding claim 25, Mahany Zyren lack what Smith discloses, that is "the second communications protocol is used among at least two vehicles to prevent collisions between the at least two vehicles (*col. 1, lines 44-57 where it the first and second vehicle are communicating about collision avoidance*).\" It would have been obvious to include the communication between two moving vehicles with the system of claim 15 for the purpose of avoiding a traffic accident involving the moving vehicles. The motivation is to avoid vehicle or personal injury.

5. Claims 26 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mahany et al. and Zyren as applied to claim 15 above, and further in view of U.S. Patent 5,928,291, Jenkins et al. (Jenkins).

Regarding claim 26, Mahany and Zyren lack what Jenkins discloses, "wherein the second communications protocol is used to transmit information associated with a weight of a vehicle (*col. 3, lines 42-59*).\" It would have been obvious to one with ordinary skill in the art at the time of invention to include the transmitting of weight information for the purpose of transmitting information used in the calculation of various monetary fees. The motivation for transmitting the information electronically is one of speed and efficiency.

Regarding claim 30, Mahany and Zyren lack what Jenkins discloses, "wherein the second communications protocol is used to determine information associated with a toll (*col. 3, lines 42-59*).\" It would have been obvious to one with ordinary skill in the art at the time of invention to include the transmitting of toll information for the purpose of transmitting information used in the calculation of various monetary fees. The motivation for transmitting the information electronically is one of speed and efficiency.

6. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mahany et al. and Zyren as applied to claim 15 above, and further in view of U.S. Patent 4,017,825, Pichey.

Regarding claim 28, Mahany and Zyren lack what Pichey discloses, that is "the second communications protocol is used by a vehicle to control traffic control signals (*col. 1, lines 27-37*).\" It would have been obvious to one with ordinary skill in the art at the time of invention to include the control of traffic signals with the system of claim 15 for the purpose of stopping traffic in the intersection. The motivation being that the traffic must be stropped in the intersection so that the emergency vehicle can get through.

7. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mahany et al. and Zyren as applied to claim 15 above, and further in view of U.S. Patent 6,466,981 131, Levy.

Regarding claim 29, Mahany and Zyren lack what Levy discloses, "wherein the second communications protocol is used to inform a prospective customer that a taxicab is available (*col. 10, lines 21-36 where the notification has been communicated to the user via a peripheral device similar to one in Mahany*).\" It would have been obvious to one of ordinary skill in the art at the time of invention to include the notifying a user that a taxicab is ready for the purpose of notifying the user of real-time events. The motivation for notifying a user of real-time events would be so that the user has an up to date account of the status of the event.

Response to Arguments

8. Applicant's arguments filed 12 April 2005 have been fully considered but they are not persuasive.

Applicant argues that Mahany in view of Zyren does not disclose "communicat[ing] to the combination unit one or more discrete number frequency channels," that there is no coordinating between a device using the second communications protocol and device using the first communications protocol, that there must be "transmitting via the second communications protocol using the one or more discrete number of frequency channels that are not used by the first communications protocol," Zyren does not disclose "a device that utilizes a second communication protocol," and there is no teaching or suggestion in Mahany that "the transmission via the second communication protocol occurs using the one or more discrete number of

frequency channels that are not being used by the first communications protocol.” The examiner respectfully disagrees.

As noted in the rejection above, Zyren col. 5, lines 53-55 and col. 6, lines 19-21 shows, specifically, the communication of discrete frequencies through the use of the beacon signal coming from the access point.

Further, col. 5, lines 53-55 and col. 6, lines 19-21 of Zyren suggests that by sending the discrete frequencies through the beacon signal, the access point is coordinating communication among the wireless devices.

Again in col. 5, lines 53-55 and col. 6, lines 19-21 of Zyren, by transmitting the frequencies to be used, the unused frequencies can be determined by removing the used frequencies from the total list of frequencies and what is left represents the unused frequencies. This is further demonstrated in figures 13-15 of Zyren.

Zyren is used to show that the discrete frequencies can be communicated to the mobile devices from the access point. This in combination with Mahany’s first protocol, second protocol, and communication therein results in applicant’s claimed invention. Therefore, there is no need for Zyren to disclose a second communications protocol.

Lastly, Mahany, col. 12, lines 52-56 fully discloses a situation where the protocols are inherently linked. And as disclosed in col. 40, lines 51-56 of Mahany, each protocol uses frequency hopping therefore, each protocol would need to use the frequencies not in use by the other to avoid interference.

Conclusion

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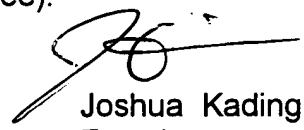
9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua Kading whose telephone number is (571) 272-3070. The examiner can normally be reached on M-F: 8:30AM-5PM.

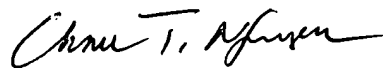
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on (571) 272-3126. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Joshua Kading
Examiner
Art Unit 2661

June 20, 2005



CHAU NGUYEN
SUPERVISORY PATENT EXAMINER
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